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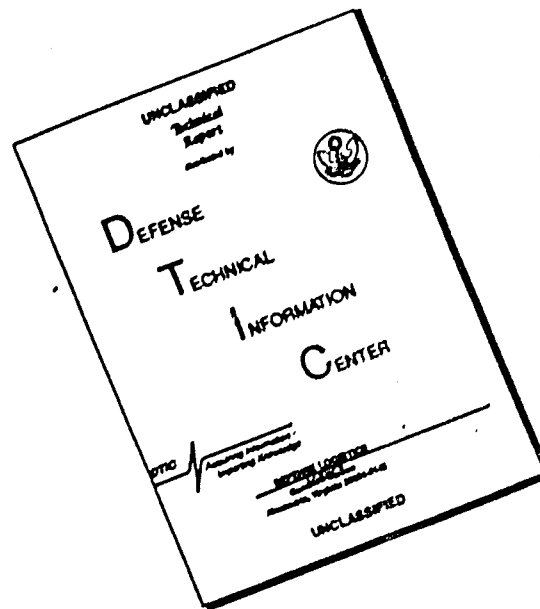
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DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGDA (M) (3 Sep 69)

FOR OT UT 692173

10 September 1969


AD 859530

SUBJECT: Operational Report - Lessons Learned, Headquarters, 589th Engineer Battalion, Period Ending 30 April 1969

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2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

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ROBERT E. LYNCH
Colonel, AGC
Acting The Adjutant General

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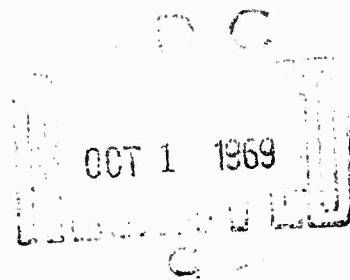
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DEPARTMENT OF THE ARMY
HEADQUARTERS, 589TH ENGINEER BATTALION (CONST)
APO San Francisco 96321

EGACBF-CO

30 April 1969

SUBJECT: Operational Report of 589th Engineer Battalion (Construction),
For Period Ending 30 April 1969, RCS CSFOR-65(R1)

THRU: Commanding Officer
35th Engineer Group (Const)
ATTN: EGA-3
APO 96312

Commanding General
18th Engineer Brigade
ATTN: AVBC-CB
APO 96377

Commanding General
United States Army, Vietnam
ATTN: AVHGO-DST
APO 96375

Commander in Chief
United States Army, Pacific
ATTN: GROF-DT
APO 96588

TO: Assistant Chief of Staff for Force Development
Department of the Army (ACSFOR-DA)
Washington, D.C. 20310

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30 April 1969

SUBJECT: Operational Report of 589th Engineer Battalion (Construction)
For Period Ending 30 April 1969, RCS CSFOR-65(R1)

1. SECTION 1, OPERATIONS: Significant Activities

a. Organization: The organizational structure of the 589th Engineer Battalion (Construction) during the report period is found at Inclosure 1.

b. Command and Staff Changes: CPT Grant L. Fredricks assumed command of Company B on 1 February 1969 replacing 1LT Robert R. Greer who rotated. CW2 Harold D. Mangum became the personnel officer on 1 February 1969 replacing CW2 James Kessinger who rotated. CPT Joseph P. Leary became battalion adjutant on 12 February 1969 replacing 1LT Kenneth P. Koppers. 1LT James D. Creaseman, CO, 553rd Engr Co (FB) was assigned with his company to the battalion on 12 February 1969. 1LT Koppers became CO, HHC, 589th Engr Bn (Const) on 26 February 1969 replacing 1LT Roger Langford who rotated. Also on 26 February, MAJ Martin M. Warvi assumed the duty of Battalion S-3 replacing CPT Joseph Feast Jr who became the assistant S-3. CPT Richard W. Chapman assumed command of Company A on 8 March 1969 replacing CPT Michael E. Gilbertson who was assigned to the S-3 Section prior to rotating. MAJ Eugene W. Bennett became battalion executive officer on 10 March 1969 replacing MAJ Richard B. Pierce who rotated. CPT Thomas O'Dea and his company personnel were reassigned to the 577th Engr Bn (Const) on 13 March 1969. 1LT Robert A. Hixson and his personnel (formerly Company D, 577th Engr Bn) were assigned to the 589th Engr Bn (Const) on 13 March 1969. 1LT Anthony C. Muse and 51st Engr Plt (Asphalt) were reassigned to the 577th Engr Bn (Const) on 15 March 1969. CPT Howard H. Reed, CO, 687th Engr Co (LC), was attached with his company, to the battalion on 1 April 1969. Also on 1 April 1969, SGM Clifford Moore succeeded SGM Frank Leeder who rotated. 1LT Gerald N. Bracey assumed duty of the Engineer Equipment Maintenance Officer on 22 April 1969 replacing 1LT Charles Poteet who was reassigned to Company B, 589th Engr Bn (Const).

c. Headquarters and Headquarters Company (HHC):

(1) The Headquarters Company water point at Don Duong produced 351,000 gal. of water from 1 February 1969 through the 15th of March 1969 when they returned to Phan Rang. The water point at Company C, Song Pha, produced 368,000 gal. of water during the report period.

(2) The utilities section continued to improve living conditions in the battalion base camp area through light construction and minor repairs.

d. Company A:

(1) The organizational structure of Company A, 589th Engr Bn (Const) during the reporting period remained the same, except that on

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15 March 1969, the 51st Engineer Platoon (Asphalt) was detached and attached to Company D, 577th Engineer Battalion (Construction). Nine persons from the 51st Engineer Platoon (Asphalt) remained attached to Company A in order that paving operations on QL-11 west could be conducted. A provisional dump truck platoon was formed and attached to Company A on 1 March 1969. Five-ton dump trucks and operators from Companies A, B, C, and D of the 589th Engineer Battalion, and the 51st Engineer Platoon (Asphalt) were assigned to the provisional platoon. The platoon was formed in order to efficiently support the paving operation with hot mix asphalt. With the arrival of the main body of the 513th Engineer Company (Dump Truck) on 20 April 1969, the trucks in the provisional dump truck platoon were detached from Company A and attached to the dump truck company.

(2) Company A continued in the performance of its primary mission throughout the reporting period of supporting the line companies with specialized equipment and maintenance service. The company also supported other units with specialized equipment on an as-available basis.

(3) The paving operation, which began laying asphalt on 23 Feb 69, was supported with 3 ten-ton tractors w/25 ton lowboy trailers, one MCA pneumatic tired roller, two 800 gal asphalt distributors, two paving machines, one 1000 gallon water truck, one 5-8 ton roller, and one 10 ton roller. The first section of road paved was on the west side of Bridge 16 (BN 620957). This was a $1\frac{1}{2}$ mile test strip to see how the asphalt would hold up to traffic without base course beneath it. When this two lane strip was completed, the section of road from bridge 4 (BN 756833) to bridge 5 (BN 735844), a distance of .9 mile, was paved. Upon completing that, the paving crew began paving from bridge 4 to Thap Cham (BN 766824), a distance of $2\frac{1}{2}$ miles. At this time it was felt that the test section paved on the west side of bridge 16 was adequately holding the traffic so the paving resumed at that location and an additional three miles of double lane was paved, giving Company B time to complete upgrading the road from bridge 5 to bridge 6 (BN 723852). The paving train subsequently returned to pave the section bridge 5 to bridge 6, where it was working at the close of the report period. An extra paving machine was kept on the site to provide back-up in case the other became inoperative. Both pavers did not operate simultaneously due to lack of personnel. Transportation for the rollers and pavers were kept on location and the transporter operators were used to supplement the paving crew manpower shortage by acting as shovel men. All maintenance on paving equipment was done on the site.

(4) The provisional dump truck platoon supported the paving

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operation throughout the report period. When not hauling asphalt, the dump trucks hauled base course. Sand was back-hauled to the Air Force asphalt plant which supported the operation. One major problem created by the dump truck platoon was that it placed an unusual maintenance work load on the maintenance section of Company A since they represented 12 additional 5 ton dump trucks above the number authorized by TO&E. This problem was somewhat alleviated by giving some of the organizational maintenance responsibility to Company B.

(5) On 24 February 1969 the quarry section began its partial switch to asphalt aggregate production. This consisted of installing another secondary roll crusher. The addition of the new secondary allowed the quarry section to produce 1"(-) and $\frac{1}{2}$ "(-) asphalt aggregate and 2 $\frac{1}{2}$ "(+) base course as opposed to its previous capability to produce to produce only 1 $\frac{1}{2}$ "(-) and 2 $\frac{1}{2}$ "(-) products. The quarry's rock drilling capacity was augmented during the reporting period when two MCA track drills and compressors were received; however, it should be noted that one track drill was turned in which left a balance of 3 on hand. Also, two MCA D9 dozers were assigned to the quarry to supplement the D7 and D9 which were formerly being used for development work. The quarry's primary loading capability was one 40 ton crane with shovel front. Extensive quarry development continued throughout the reporting period to include the cutting of a new bench 30 feet below the first one. On 28 March 1969 the quarry section switched from a two-shift production operation to a day crushing operation and a night development and maintenance operation. This decision was made since there was not an adequate work force to successfully run two shifts, efficiently produce rock, and meet maintenance demands. Now, people from the night crew are assigned to the day production crew. Track drills are run on both shifts. This allows the track drills to stay ahead of the crusher. The system has worked well and is flexible enough to allow the night shift to crush rock when the day shift has deadline problems. During the report period 54,741 cubic yards of 2 $\frac{1}{2}$ "(-) base course, 1,998 cubic yards of 1 $\frac{1}{2}$ "(-) concrete rock, 3,881 cubic yards of 1"(-) asphalt aggregate and 958 cubic yards of $\frac{1}{2}$ "(-) asphalt aggregate were produced.

(6) The company maintenance section received an average of 7 (4 Engr, 3 Ord) daily work requests during the report period. The maintenance platoon received a total of 358 work orders, completed action on all but 45 at the close of the period, and turned in a total of 33 Engineer and 25 Ordnance items of equipment. 238 Redball 02 priority requests were received during the report period. Of these, 94 were filled and 18 were cancelled. During the same period, 1728 requisitions of 05 priority were received, 621 were filled and 347 were cancelled. The maintenance platoon also received and deprocossed the following items

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of MCA equipment: 2 ea D-9G dozers, 2 ea Hyster segmented compactors, 2 ea trackdrills, 2 ea 600 CFM compressors, 1 ea rotary sweeper, 1 ea Raygo compactor and 1 ea Hyster 9-wheel pneumatic roller.

e. Company B:

(1) On 1 April 1969 the Earthmoving Platoon of Company D, commanded by 1LT Samuel Lamey, was attached. Major projects during the report period included: road upgrading and drainage structures along a 15.5 mile stretch of QL-11 between Thap Cham and the Tan My Bridge, coord BN 767823 to BN 619957; road clearing and maintenance on a 102 mile stretch of QL-1 from coord CP 023304 to BN 182408: upgrading of MACV facilities in Phu Quy, Buu Son, and Tuy Phong sub-sectors; operational support fire base facilities construction for the (6/84) Artillery at Tan My Bridge; and billet revetments construction for that portion of the 589th Engineer Battalion located at Phan Rang Air Base. Other projects included Civic Action work in Phu Quy and Song Mao districts.

(2) The attachment of the D Company Earthmoving Platoon was very successful because it permitted much more latitude for construction management at the company level. Each platoon had an assigned section of roadway, and normally each platoon worked its own equipment in its area; however, equipment was successfully shifted from one platoon to the other to compensate for extreme haul distances, stripping and grubbing operations, base course operations and the deadline of key equipment. Road construction progress was more efficient and faster with the flexibility provided by two earthmoving platoons.

(3) The principal earth work on QL-11 consisted of clearing and grubbing, stripping, widening and filling. In addition, major excavation requiring drilling and blasting was accomplished and substantial drainage structures installed.

(4) Effort on QL-11 during the reporting period resulted in the placement of 97,500 cubic yards of fill, 13,600 cubic yards of crushed stone, 640 cubic yards of blast rock and 140 cubic yards of concrete. Stripping of unsuitable material from the roadway and five borrow pits required removing 82,000 cubic yards of spoil. Drainage structures completed include Bridge #5 (BN 734845) on 10 March 1969, Bridge #6 (BN 723852) rehabilitation on 24 March 1969, installation of 115' of 12" culvert, 76' of 30" culvert, 220' of 36" culvert, and 100' of 60" culvert with 9 headwalls and 3 catch basins. Asphalt application included 18,100 linear feet of MC-70 prime. During the reporting period, 14,000 linear feet of 20 feet wide asphaltic pavement and 2,500 linear

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feet of 10-foot wide pavement was completed at the close of report period.

(5) The most significant problems encountered in horizontal construction were maintenance and authorized equipment nonavailability. Maintenance problems included the nonavailability of the high demand replacement parts which result in deadlined equipment. Examples were truck tires, lug nuts, filters, cutting edges, ripper teeth, and the bolts and pins that secure the cutting edges and teeth to the machine. With respect to the bolts and pins, it is suggested that they be issued with the wear item they secure. OVM tools and grease guns were an additional replacement problem. Authorized equipment nonavailability had a significant impact on operations especially with respect to ripper dozers and fairlead assemblies for draglines. Equipment currently not authorized that could have significantly increased productivity were gasoline driven tampers for backfilling, spreader boxes for regulating and spreading base course material, and water distributors with 2,500 to 3,000 gallon capacity. The addition of MCA self-propelled rollers solved one of the company's most restricting equipment problems by allowing it to compact all of the fill material and crushed stone it was capable of hauling. The new segmented wheel and vibratory compactors far exceed TOE compactor capability.

(6) Road maintenance responsibility on the 102 mile stretch of QL-1 between Bridge #137 (CP 023304) and Bridge #24 (BN 273413) required work on three different occasions during the period. From 5 to 8 March 1969 a platoon-size task force cleared and maintained that portion of QL-1 between Phan Rang proper and Bridge #24 in support of a U.S. convoy. Road opening required the in-place detonation of two road blocks. On 12 and 13 March 1969 the company placed an emergency by-pass consisting of two 60" culverts at the Bridge QL-1-94 structural failure (BN 938051) and on 3 April, the company cleared a road block at BN 422400.

(7) Upgrading of MACV facilities was accomplished at three locations: MACV advisory team facilities were constructed at Tuy Phong, Binh Thuan Province, consisting of a 20'x40' billet with latrine, 20'x 20' operations building, water storage and septic tank facilities; and at Buu Son in Ninh Thuan Province with a 20'x 40' billet with latrine, 20'x20' operations building, water storage and septic tank facilities, and a 15 foot water well. At the close of the period a third MACV facility was 60% complete at Ca Na, Ninh Thuan Province. Work at that location consisted of a 20'x 30' living/fighting bunker, 4'x4' latrine and shower, cyclone fence, concertina and double apron wire protective barriers.

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(8) An additional operational support mission completed by the company was the construction of facilities at fire base Flo-Ann located at the Tan Hy Bridge (BN 618957). These facilities included two 20'x 40' living/fighting bunkers and a latrine and shower, each 10'x10'.

(9) The most significant problem encountered in the verticle construction area was materials nonavailability of both high demand standard items such as 1" lumber in 4, 6, and 8" widths and 2"x 8", hinges for doors and gates, roofing paper, culvert bolts, tie wire for forms for concrete, 3/16" and 1/2" plywood, and other items such as pumps and some plumbing fixtures. Often substitutions were made with simple redesign but other cases required extensive redesign or expensive overbuilding. In the case of pumps, two MACV facilities stand uncompleted as a result of these nonavailable items. An additional problem was the nonavailability of electric power saw blades, rubber gaskets for air tool hoses, and long handled shovels.

(10) Substantial effort was expended in the construction of four-foot high revetments around 48 billets in the battalion area. Over 200,000 BF of lumber and two tons of nails were used in the construction.

(11) Civic Action projects included engineer equipment work in Phu Quy and Song Mao districts. In Phu Quy a 1/2-mile section of road was rerouted, opening the village of La Chu to vehicular traffic. Operating out of Song Mao, an element of Company B cleared perimeter fields of fire in Hai Minh District, cleared brush and removed dikes in preparation for hamlet reconstruction in Phan Ly Cham District, dug a stream channel and did road foundation work at Hun An Village, cleared school playground and village market place areas in Hoa Da District, and constructed a temple road in Thong Vau Village.

f. Company C:

(1) During the period from 1 February 1969 to 30 April 1969, Company C, 589th Engr Bn (Const) was engaged in the upgrading of QL-11 from coordinates BN 619957 to BP 579033 and maintaining RVN Route QL-11 from coordinates BN 619957 to BP 453084 (32 kilometers of roadway). During the report period, Company C was also engaged in improvement of the cantonment area, completion of a base camp area for two 155 mm howitzers and their gun crews in support of the (6/84th) Artillery and upgrade of MACV advisor facilities at Du Long. This unit was engaged in training and operations for 89 days. Twenty-one men of the 1st General Construction platoon were involved in troop movement on 14 April

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1969 from Song Pha to Phan Rang in preparation for upgrading MACV advisor facilities at Du Long. The company also provided rescue teams for disabled U.S., ARVN and civilian vehicles in its area of responsibility.

(2) Improvements were made in the cantonment area with the construction of a POL platform, a permanent loading ramp and storage bins for concrete aggregate, base course and sand. The company also completed construction of revetments around each billet. During the reporting period it was also necessary to move the water point due to the lowering of the water table in the cantonment area.

(3) A continual maintenance program was established to insure that QL-11 was kept open to traffic. The maintenance consisted of pot-holing from coordinates BP 480085 to BP 453084, cleaning out culverts and ditches to improve drainage in the pass (mountainous region between Song Pha and Don Duong), and grading the existing road directly after each rain.

(4) The upgrading of QL-11 was a combined effort of the earthmoving platoon and the two general construction platoons. During the months of February, March and April the sum of 40,140 cubic yards, 46,580 cubic yards and 50,600 cubic yards of fill, respectively, were hauled, graded and compacted for a total amount of 137,320 cubic yards placed during the report period. The average haul distance remained fairly constant at between 1,000 and 2,000 meters. The maintenance problems on earthmoving equipment were reduced considerably with the arrival of two new 290 Tractors on 17 February 1969, and another new 290 on 8 March 1969. The average amount of material moved increased from 1,820 cubic yards per day during February to 2,410 cubic yards per day during April.

(5) The construction platoons completed construction of 10 culverts. All culverts were backfilled and tamped, compacted, headwalled, and rip rapped on the upstream and downstream sides. As the result of enemy activity on 21 April 1969, one of the newly completed headwalls at culvert #20 was almost completely destroyed. Both construction platoons were engaged in the continual prefabrication of headwalls for culverts that will be started in the near future.

(6) The 2nd general construction platoon completed construction of a fire support base which was approximately 50% complete at the end of the previous reporting period. Completion of the fire support base included construction of revetments for six vehicles, command bunker (20'x 40'), ammo bunker (10'x 20'), and one messhall-SEA hut (20'x 60'), and one water storage tank and shower. The fire base was occupied on

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7 February 1969, the finishing work being completed by 25 February 1969.

(7) Upgrade of MACV advisor facilities, Ninh Thuan Province: The 1st general construction platoon began construction on facilities for the MACV Team at Du Long on 15 April 1969. The project consisted of a 20'x 40' billet w/latrine, one water storage tower and tank (1000 gal), one septic tank and one well. Due to the lack of available living facilities at Du Long, it was decided to base the 1st Platoon in Phan Rang. The original completion date for this project was set at 19 May 1969, however, due to rapid progress and the availability of materials, the project will be completed by 9 May 1969 with the exception of the well.

g. Company D (1 February - 12 March 1969)

(1) Company D was fully committed to directed projects for the report period. The bulk of the work centered on road maintenance of QL-11 from Dalat to a point $7\frac{1}{2}$ miles east of Don Duong and all of QL-21A from Don Duong to highway QL-20. The maintenance along QL-11 consisted of the cleaning of ditches by grader and the removal of several small slides while maintenance of QL-21A was performed concurrently with its upgrade.

(2) The period saw the upgrade of QL-11 from BP 453085 to BP 387100 begin. Work consisted of relocating almost two kilometers of road between BP 453085 and BP 425097. A total of 2000 cubic yards were placed at the second location and 17,000 cubic yards of fill were placed at the first location. Vertical construction consisted of the erection of a 48" x 120' culvert (BP 425097) and the beginning of construction of a twin 60"x 96' culvert at #44.1 (BP 453094). The culvert #44.1 is one of several planned to eliminate several bad curves in the mountain road.

(3) The bulk of the operational support operations were directed to work at Pr'line Mt. and Lang Bian Mt. signal sites along with continuing work at Cam Ly Airfield and C Btry 5/27 Arty in Dalat.

(a) The work at Pr'line consisted of preparing a path with a dozer to pull a large plow around the site. The plow dug a trench for the installation of security equipment.

(b) The job at Lang Bian Mt. was designed to be the same as at Pr'line Mt.

(c) A 20'x 60' messhall was the project at C Btry 5/27 Arty. It was designed to be a self help project with BCM and technical assistance provided by Company D, 589th. The BCM was delivered late

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in February 1969 and the actual building took place in early April 1969.

(d) The Dalat POL job involved the installation of 3 ea 500 bbl and 1 ea 3000 bbl bolted steel tanks. Two 500 bbl tanks were completed and the pad for the third 500 bbl tank was poured.

(4) The company also worked continually on improving base camp defenses and began preparations for expanding the base camp. They also received instructions to establish a 75 TPH rock crusher site and to in-place 200' of triple single Bailey Bridge across the spillway nearby to facilitate movement of heavy equipment from the base camp.

h. Company D (13 March - 30 April 1969)

(1) On 3 March 1969 the first construction platoon convoyed south to Dong Ba Thin to take over an 80'x 300' covered storage warehouse originally started by Company C. The platoon was placed under the operational control of the 35th Engr Gp until 13 March 1969 when the company was assigned to the 589th Engr Bn (Const). On 23 March 1969 the remainder of the company less the EM platoon, convoyed from Tuy Hoa to Dong Ba Thin. The EM platoon remained behind at Tuy Hoa, attached to B Company, 577th Engr Bn (Const) to aid that unit in upgrading QL-1. On 31 March 1969 the platoon boarded one LST at the Vung Ro Bay harbor and was shipped to Phan Rang where it was attached to Company B, 589th Engr Bn (Const), to aid that unit in upgrading QL-11.

(2) When the company arrived at Dong Ba Thin it discovered several projects waiting for it besides the improvement of its own cantonment area and the warehouse. The facilities for a counter-mortar radar site were immediately started. This project consisted of a concrete pad with six-foot high revetments for the radar equipment, two 16'x 32' SEA huts, one latrine and shower, a 10'x 12' generator pad, one guard tower, an operations bunker, and a protective berm, 100 meters long and three meters high. The project was nearly complete at the close of the report period.

(3) The unit also started work on an aircraft direct fueling facility located at the airfield in Dong Ba Thin. This project consists of constructing a 500 bbl tank with required piping running through a filter-separator and fuel pump. Piping which links the existing tank to the helicopter pads is also required. This project will be completed by 24 May 1969.

(4) The warehouse being built for the 608th Transportation Company will be completed by the middle of the next report period. The

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end of this period saw the completion of all of the framework, purlins, and the majority of the tin roof installation.

(5) The unit was engaged a total of four days this quarter in troop movements, thirteen days in training, and seventy-two days in operations.

i. 51st Engineer Platoon (Asphalt): The major activities of this platoon during the report period involved maintenance of its equipment, preparation for its move to Don Duong and the setting up of the asphalt plant at Don Duong.

j. 513th Engineer Company (Camp Truck): The company was attached to the 589th Engr Bn (Const) for only administration for all but eleven days of the report period. The battalion received one platoon for work on 19 April 1969.

k. 553rd Engineer Company (Float Bridge):

(1) The unit was quite active with bridging missions during the early weeks of the reporting period. On 2 February 1969, the second platoon was tasked with the construction of a 38'-4" M4T6 dry span at grid coordinates CQ 144546 on QL-1, just north of Tuy Hoa. The platoon arrived within hours after enemy action had destroyed the existing timber overlay. Within hours traffic was moving freely. On 3 February 1969, the first platoon was transported via helicopter to Dung Tre, tasked with removing a 75' combination trestle/dry span bridge at grid coordinates BQ 916708. The unit was supported by elements of the 173rd Airborne Brigade and accomplished removal within hours by expedient disassembly and rigging components for airmobile transport via CH-54 flying crane helicopters.

(2) On 10 February 1969, again with support from the 173rd, the second and fifth platoons relocated two combination trestle/dry span bridges on the man-made canal running parallel to LTL-7B. The end spans were disassembled and transported in trucks to the new site. The trestle arrangements were rigged for airmobile transport and flown via CH-54 to the new locations. The bridges were relocated from grid coordinates CQ 037395 and CQ 029390 to grid coordinates BQ 009387 and BQ 985387 respectively. These bridges served to assist D Company, 577th Engineer Battalion with their land clearing mission parallel to LTL-7B and provided a readily accessible route to the mountainous area north of LTL-7B.

(3) On 15 February 1969, the 2nd platoon constructed another combination trestle/dry span bridge at grid coordinates BQ 964394,

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LTL-7B, and removed the existing 53'-4" dry span/trestle bridge at BQ 009387, LTL-7B. On 21 February 1969 the combination trestle/dry span bridge at coordinates BQ 985387 and BQ 964394 were removed and components returned to the bridge park. For the period mid-February to mid-March, the second platoon removed the 555' Ban Thach River float bridge on QL-1 because it was no longer required. All components were inventoried and all serviceable components turned in.

(4) The early weeks of the report period were filled with much preparation for the relocation of the company from Phu Hiep to Dong Ba Thin. Formerly attached to the 577th Engineer Battalion, upon relocation, the unit was attached to the 589th Engr Bn (Const). The second platoon remained under the operational control of the 577th Engr Bn (Const) and had been working in the Phu Hiep area.

(5) The company was relocated primarily to provide emergency bridging of the gap between the mainland and the Can Ranh Bay peninsula should the enemy destroy the My Ca bridge presently located there. The company immediately was tasked upon relocation, with the preparation of a contingency plan to construct a float bridge should the My Ca be destroyed. Preparation entailed making a reconnaissance of the bridge area and selecting and clearing four construction sites, preparing banks and abutments at the proposed bridge centerline, prefabricating an anchorage system utilizing 6,000 feet of cable, and stockpiling all necessary bridge components at the construction site. Unit training was scheduled such that each member of the unit had the opportunity to become familiar with the overall assembly of the proposed float bridge.

(6) The new company area was in separate need of fortification rehabilitation and it immediately undertook the task of completely reconstructing and strengthening perimeter defenses. 3,000 meters of multiple concertina wire were spread along the perimeter, with a 10-foot high berm constructed along 2/3 of the distance along with the installation of 25 additional flood lamps, claymore mines and trip flares. Two perimeter guard towers and 3 perimeter bunkers were strengthened and completely re-sandbagged, as were all ammo nexes. A total of 18 2-man emplacements were constructed on the exterior and the interior perimeters. Revetments were constructed around 4 or 120'x 20' buildings. One company bunker (44'x 12'x 8') was fully constructed and another one was partially constructed. Preparations were completed for a 3rd bunker.

(7) The unit was most active in performing its secondary mission of transportation, since its move to the Dong Ba Thin area. The 4th platoon made 8 convoys to the Ban Me Thout area, providing 78 bridge truck days in support of the relocation of the 610th Engineer Company.

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From Cam Ranh Bay to Ban Me Thout. The unit also provided the 577th Engr Bn (Const) with 87 bridge truck days used to convoy the battalion elements to their new locations. Fifty-eight bridge truck days were utilized to convoy supplies to Company C, 577th Engr Bn (Const) located at Bao Loc. The unit also supported the 589th Engr Bn (Const) with approximately 145 bridge truck days and 32 cargo truck days for general purpose convoys.

1. 687th Engineer Company (Land Clearing):

(1) Primary mission of the company during the report period was to clear 200 meters along QL-20 from the II-III Corps border to QL-21, all of QL-21A, and QL-11 from Song Pha to Phan Rang and perform general clearing around the Qui Nhon and An Khe areas.

(2) On 1 February one half of the company convoyed to Bao Loc, RVN and moved into Camp Smith with HQ, 116th Engineer Battalion (Combat). The other half of the company continued preparing for their move, and 13 February was the date they closed Bao Loc. Both convoys were part of the resupply convoy out of Cam Ranh Bay under the control of the 36th Transportation Battalion. On 14 February, the entire company was located at Camp Smith and was attached to the 116th Engineer Battalion. The company worked out of Camp Smith on QL-20 West until 24 February 1969 due to the Vietnamese TET Holidays and problems in arranging security. This cut production considerably due to the time involved in getting to the work site. Three hundred ninety nine acres were cleared during this period. On 24 February 1969 the company moved to a field location with 2nd Platoon, E Troop, 17th Cavalry, 173rd Abn Bde for security. After working eight days clearing the steep sides of Blao Pass, the unit moved rapidly westward along the road primarily clearing thick bamboo. On 8 March 1969 work was started in Banana Pass, another steep sloped area. On 13 March 1969 this pass was completed and by 16 March 1969 the road had been cleared west to the II-III Corps border. From 17-19 March 1969 the company moved back to Bao Loc. During field operations the company occupied three field locations and cleared 1999 acres.

(3) Close and constant coordination with local MACV personnel allowed the accomplishment of many civic action projects. These projects included clearing and pushing up berms for two new Vietnamese Regional Force (RF) outposts, clearing around five existing RF outposts, preparing building sites in the town of B'sar, building two roads, clearing an area for new buildings in the town of Madaui, and clearing 50 acres for a resettlement village.

(4) The company pulled a partial "stand down" (intensified maint-

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enance period) at Camp Smith while clearing 320 acres around the Bao Loc Air strip.

(5) The company then moved to Di Linh during the period 24-26 March 1969 and started work along QL-20 toward Dalat. On 31 March 1969 the company received the mission to send the 2nd platoon to Qui Nhon to work in that area. The platoon convoyed to Phan Rang on 2 April 1969 where they were transported by LST to Qui Nhon arriving on 4 April 1969. Despite the loss of this platoon, the company continued to make significant progress, reached QL-21A on 8 April 1969, and finished it four days later. The company at this point had occupied 7 different field locations, cleared 1831 acres and completed four civic action projects including a 1500 meter road network for a resettlement village in Don Duong, RVN. The company then shuttled to Phan Rang during the period 12-16 April 1969, and "stood down" for maintenance until 23 April 1969, when it returned to the field to clear QL-11 starting at Song Pha. It had cleared 900 acres at the end of this report period.

(6) The second platoon cleared 125 rocky acres around the ammunition supply point, Lane Army Heliport, and 22nd Artillery Battalion in Qui Nhon. It "stood down" in An Khe and worked a POL tank farm there. It was clearing QL-19 through the An Khe pass at the close of the report period.

(7) The unit has engineer third echelon maintenance capability and was able to repair all organic dozers. Ordinance and repair parts support came through the Logistical Supply Activity (LSA) at Bao Loc until 15 April 1969, then through the 69th Maint Bn at Cam Ranh Bay and the LSA at Phan Rang. The majority of the mechanics accompanied the unit in the field and all possible repairs were done there. A third echelon team operated in the rear area to handle jobs evacuated from the field and the T&ERS and PLL clerks remained in the rear area. Each day an operational dozer from each platoon was given a periodic maintenance service. A total of 216 hours of maintenance was performed during the report period. Each item of equipment was completely serviced during the maintenance stand down and all lube and oil changes were done by the same team. The only major problem encountered were the many "Red Ball" (express) requisitions submitted through the LSA at Bao Loc which did not reach the 69th Maintenance Bn in Cam Ranh Bay. A parts expediter with the 35th Engr Gp in Cam Ranh Bay helped eliminate this problem.

(8) Company administration was handled in the rear area by the ISG and the company personnel records specialist working with the support battalion. A daily courier was used to handle distribution to and from the field. Mail service was delayed whenever APO's were switched due

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to unit moves.

(9) Security was provided by a platoon from E Troop, 17th Cav, 173rd Abn Bde which averaged 26 people and 6 gun jeeps. Additional evening security was provided occasionally by local Popular Forces (PF) platoons and most all intelligence data was obtained from MACV advisory teams. The company was sniped at once while in base camp on 2 March 1969 with negative results and was ambushed on the road with negative results on 24 February and 25 March 1969. Dozers hit several antipersonnel mines with negative casualties. Night field positions were 150-200 meters in diameter with a berm and an area 200-400 meters wide was cleared outside the berm.

(10) Resupply was obtained from the LSA at Bao Loc until 15 April 1969 when the LSA at Phan Rang assumed responsibility. Ration resupply was done on a daily basis and from 7 March to 14 April, rations were flown to the field. Water was obtained daily from the nearest water point. Fuel was drawn from the LSA at Bao Loc, B'sar and Duc Trong while working on QL-20 and QL-21A, and from Phan Rang at the close of the report period.

(11) All training was integrated with daily clearing operations except one hour of weekly Command Information. Chaplain services were obtained whenever possible.

(12) The unit had three medics who accompanied platoons to the field and at the work sites. They did an excellent job on all minor medical problems. MEDEVAC was obtained through MACV and less serious medical problems were handled in the rear area by the battalion surgeon.

m. Personnel and Administration

(1) During the report period ending 30 April 1969, the assigned strength of the battalion plus attached units went from 94% at the start of the period in February to 86% at the close. Part of this loss is contributed to a levy of MOS 11B20 in an effort to raise the strength of Infantry Divisions in RVN. Loss of these individuals who had been cross trained to work in the battalion had an adverse effect on its strength.

(2) The most critical shortage of required MOS continued to be 64B20 and 76Y40. Other MOS's although short at the present time are being filled from normal replacement channels and OJT programs.

(3) During the report period, 99 personnel in the battalion

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were recommended for awards.

n. Intelligence and Security

(1) Enemy activity directed against friendly forces in general in the battalion's area of responsibility was concentrated primarily near Phan Rang Air Base and against the Air Base itself. Enemy activity that was apparently directed at the battalion was generally light and, in almost all cases, could be assumed to be directed against other friendly elements.

(2) The nature of enemy activity during the report period ranged from sightings of suspicious activities to mortar and rocket attacks against friendly installations.

(a) On 5 February a 308 PF Plt sited 11 Viet Cong (VC) north of Don Duong. The PF's fired on them and discovered it to be a VC company, but no hits were confirmed. One hour later, a village guard in the same area fired 6 rounds of M79 at some lights and recorded 1 KIA.

(b) On 8 February two twelve-inch culverts in the mountainous region between Song Pha and Don Duong on QL-11 were destroyed by enemy demolitions.

(c) Company D guards sighted 2 lights north on the dam (BP 395122) at Don Duong about 2215 hours on 18 February. The lights were extinguished by machine gun fire.

(d) Bridge QL-11/55 was damaged by enemy demolitions on the night of 22 February 1969, however the structure continued to pass traffic.

(e) On 22 February at 2000 hours, members of an ARVN Battalion killed seven VC and captured one (1) AK-47 rifle approximately 300-500 meters south of culvert QL-11/19.

(f) Also, on 22 February, the start of the Winter-Spring Offensive, the village of Luong Tri Strip, just outside the Phan Rang Air Base perimeter, was 40% burned after VC had entered the village and terrorized the people.

(g) On 22 February, at 0200 hours, the 482nd RF Co received 3 B-40 rockets and small arms fire at their location near Bridge 55 on QL-11. At the same time, sappers placed charges on each

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side at the south end of the bridge. The damage was repaired by the MPW and Co D to pass class 30 traffic. Permanent type repairs are being scheduled by the MPW. Also, at the same time, the 28th PF Plt received 10-12 mortar rounds and an unknown number of B-40 rockets in the area of bridge QL-11/49. Four Friendlies were wounded.

(h) At 0125 hours on 24 February, a squad of the 308 RF Plt received harassing fire in their night defense along QL-11 north of Pr'line Mountain at BP 319161. Artillery fired 16 rounds high explosive(HE) rounds in support.

(i) At approximately 0200 hours on 24 February, the Phan Rang Air Base came under enemy mortar and rocket attack with no friendly casualties or damage to the base.

(j) At 1920 hours on 28 February, the villagers in Ap Labouye, BP 340070, and Ap Loc Binh, BP 350080, spotted a VC squad moving in the open. Fifteen rounds of HE were placed in the area.

(k) On 1 March a 10-ton tractor belonging to B/589th was damaged by a claymore mine in the pass. Although the main portion of the blast was directed behind the tractor, slight damage was incurred to the truck and one EM received a fragment in the left eye and was treated at the Phan Rang dispensary and released.

(l) The bypass at culvert QL-11/20(2 ea 60" culverts) was damaged by enemy demolitions during the night of 4 March 1969. The bypass was repaired by 0900 hours the following morning.

(m) The 48th RF Bn Intelligence Platoon killed 3 VC and captured 1 AK-47 and 1 carbine while ambushing an estimated VC platoon at 2130 hours on 6 March near bridge QL-11/49(BP 430088).

(n) On 8 March 1969, the bypass at culvert QL-11/20 was again damaged by enemy demolition and repaired by C/589th Engr Bn (Const).

(o) During the week of 9-13 March, the bypass at culvert QL-11/20 was blown twice. A small cuvert at #19.1 was also blown. Traffic was not interrupted.

(p) On 11 March 1969, a ten-foot slab bridge(QL-11/20) was blown in an apparent attempt to block the road. It was immediately cleared by C/589th.

(q) At 2130 hours on 13 March 1969, Bridge QL-11/27

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came under small arms fire and one B-40 rocket. No damage was done to the structure and no casualties suffered.

(r) On 15 March 1969, two $\frac{1}{2}$ -ton vehicles from HHC drew small arms fire in the vicinity of bridge QL-11/6. No damage or casualties were suffered and a sweep of the area produced negative results.

(s) On 24 March 1969, a small box culvert near culvert QL-11/20 was demolished by enemy activity leaving a crater in the roadway which was promptly repaired by C/589th.

(t) During the period 15 March to 24 March 1969, the Phan Rang Air Base came under mortar and rocket attacks on five separate occasions. Casualties and damage to the base were generally very light and no damage or casualties were suffered by the 589th.

(u) At 1910 hours, 25 March, C/589th base camp at Song Pha came under mortar attack. Of the approximately 15 rounds that were fired, 5 landed inside the unit's perimeter. Three men were medically evacuated for minor injuries and no damage to equipment resulted.

(v) On 17 April 1969, four to six rounds of sniper fire was received at culvert QL-11/20 at 0910 hours. At 1330 hours of the same day four to six rounds of sniper fire were received by a work party at culvert QL-11/19.

(w) At 2350 hours, 21 April, the Phan Rang Air Base came under enemy attack which resulted in negative damage or casualties.

(x) The largest amount of damage suffered by the battalion during the reporting period came on the night of 21 April when the culvert QL-11/20, which was approximately 50% complete, was demolished by enemy explosives. One of the five barrels was completely destroyed and damage to the other four also resulted. The one concrete headwall that had just been poured was also destroyed. As a result a new headwall was constructed and damaged tubes were replaced for culvert #20. The road was repaired and opened the same day.

(y) In summary, there was a slight decrease in enemy activity during this reporting period as compared to the last. Minor damages to construction projects outside of secure areas continued and will probably continue as such in the future.

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o. Operations and Training

(1) The 589th EBC was engaged mainly in road building during the report period. It placed a total of 241,463 cu yds of fill, 12,419 cu yds of base course, and 8,832 tons of asphaltic concrete. It produced, in support of the above operation, 54,741 cu yds of base course and 3881 cu yds of asphalt aggregate (1"-). A total of 8.48 Km, two-lane, asphalt concreted road was completed at the end of the report period.

(2) The critical path method of task analysis was emphasized as a mandatory management tool down to, and including, platoon level during the report period. Use of the method resulted in better work estimates and the quicker spotting of problem areas by relatively inexperienced personnel undergoing on-the-job training in the 51H Military Occupational Specialty(MOS). Actual work progress, however, has lagged scheduled work due to nonarrival of expected supplies, immediate accomplishment of unforeseen combat and operational support tasks, emergency repair response to damages caused by enemy action, and immediate support of unit moves with equipment normally used in support of road construction.

(3) "MCA-BUY" equipment(special purchase of selected items of non-military construction equipment) vital to expeditious and quality road construction was received during the report period. Items such as segmented, self-propelled Hyster compactors, 600 CFM compressors, D-9 dozers, track drills and the Hyster 9 wheel pneumatic roller made a significant contribution to production, however, their beneficial impact would have been much greater had appropriate maintenance personnel and repair parts precoded their arrival.

(4) It was discovered that the Operations Sergeant, Battalion S-3 section, needed a responsible MCO for his principle assistant in coordinating internal and external activities. The operations sergeant coordinated activities among the survey teams, soils, drafting and administrative sections. He insured the prompt and accurate submission of all daily situation reports, the correct maintenance of the correspondence files and project data folders, and the expeditious accomplishment of Bills of Materials(BOM) and drawings. He reviewed all incoming and outgoing distribution, ascertained disposition on various actions and made corrections as necessary. In addition to the foregoing, he was required to continually monitor the battalion communications net to coordinate the movement of support equipment and handle the myriad of other minor problems inherent in battalion-wide simultaneous operations of stripping, filling, placing base course

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and paving. The required assistance could be adequately supplied by a staff sergeant(E6), 51H40, who would handle all phone calls(which consume upwards of 50% of duty time) and all radio traffic. Also, the quality and quantity of survey work could have been increased had the battalion received its authorized Chief Construction Surveyor.

(5) The battalion lost 48 personnel with Infantry MOS through reassignment to Infantry battalions. These personnel had been retrained and were rendering outstanding performance in various areas throughout the organization due to their relatively higher educational background and desire to excel. Their loss and the subsequent training of their replacements was of such significance that it warranted mentioning in this section of the report. It is recommended that personnel with MOS 11B not be assigned to engineer battalions unless they are to remain for the duration of their tours.

p. Logistics

(1) During the reporting period, the primary activities of the S-4 Section were the requisitioning and expediting of TOE equipment shortages and construction materials for construction projects. Additional projects, primarily involving property transfer have kept the property records in a state of flux. During the period, the property of D/589th was transferred to the 577th Engr Bn and the property of D/577th transferred to this unit's property book.

(2) The most critical TOE shortages at the present time are 1000 GAL WATER DISTRIBUTORS (Auth-6, G/H-1) and TRACTOR, D7E (Auth-14, O/H-6). These items are urgently needed for use in this unit's LOC construction mission. Requisitions outstanding prior to 9060 (Julian Date) have been canceled in accordance with "USARPAC CONFERENCE TO ELIMINATE TOE SHORTAGES OF SELECTED ITEMS OF ENGINEER CONSTRUCTION EQUIPMENT" and the following requisitions submitted for above items since 9060:

TRACTOR D-8E	
AT87HK 9090-0128	(1EA)
AT87HK 9105-0592	(2EA)

(3) During the report period, efforts to obtain construction materials were hampered by dwindling stocks in the Can Hanh Bay Depot. Items in short supply during the reporting period were 1" lumber, 3/4" plywood, 5/8" and 3/4" reinforcing steel, plumbing supplies, and 1/8" and 1/2" steel plate. It is anticipated that many of these items will be supplied during the next reporting period.

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q. Communications

(1) During the report period, the telephone wire system of the battalion was changed from the overhead wire system to the Phan Rang Air Force Base underground cable system. This underground system eliminated the problem of telephone lines being torn down by construction equipment plus the problem of routine maintenance because the Air Force solely installs and maintains all base cable systems.

(2) The new AN/GRC 142 radio teletype van arrived and is presently being installed. This van will enable the 589th Engr Bn (Const) to have secure teletype communication with the 35th Engr Gp (Const).

(3) Communications with units in Dong Ba Thin by telephonic means was difficult and necessary action to improve communications using radio were initiated during the reporting period.

r. Maintenance

During the period of the report the battalion deadline rate increases from 8% to 11.4%. This was brought about by several factors: (1) An increase in accidents, (2) nonavailability of repair parts, and (3) the heavy usage and age of equipment utilized. To alleviate this situation (1) greater effort was extended to the safety problem and (2) equipment deadlined over thirty days for parts are being turned in.

s. Religious Activities

(1) The religious program of the 589th Engr Bn has shown improvement in several areas during the months of February, March and April 1969. Among these have been better distribution of publications such as New Testament, The Link, Guideposts, Decision Magazine and Public Affairs Pamphlets.

(2) Catholic area coverage improved significantly. Catholic personnel in the Phan Rang area attend services at the Air Base Chapel and those in other areas were served by the Deputy IFFV Chaplain from Nha Trang and the Deputy Support Command Chaplain from Can Ranh Bay. They have been able to cover the battalion's outlying companies on a weekly basis.

(3) Chaplain's Fund utilization was expanded during the report period to include the purchase of books on Christian Theology and the modern translation of the New Testament. Offerings have been designated on a monthly basis to The American Bible Society, World Vision

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International and The Gideons.

(4) Jewish personnel attended Passover services 2-4 April at Nha Trang and Friday evening services for Jewish personnel were held at the Phan Rang Base Chapel. Several men from the 589th also attended the annual International LDS conference in Tokyo held 18-21 April 1969.

(5) Protestant Chapel attendance remained fairly constant with an average of eighty-five participating each week. The chaplain made hospital visits to personnel being treated at the battalion dispensary, the 8th Field Hospital at Nha Trang, and the 12th USAF Hospital at Cam Ranh Bay.

(6) The chaplain gave 17 monthly character guidance briefings to the companies in the battalion during this reporting period. Participation in the character guidance program was 94% for the report.

t. Medical Activities

(1) The Medical Section of the battalion provided primary medical care for elements of HHC, A, B, and C companies, 51st Engr Plt (Asph), 513th Engr Co (DT) from 1 February 1969 to 30 April 1969. This section directly supported Company D, 577th Engr Bn, Don Duong, from 1 February to 15 March 1969. The 687th Land Clearing Company received primary medical support from this unit from 15 April to 30 April 1969.

(2) The total number of U.S. personnel out-patient visits during the report period was 1595. A total number of 1995 Laboratory procedures were performed, 2088 immunizations were given and 1224 prescriptions were filled. Vietnamese patients numbered 418.

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2. SECTION II, LESSONS LEARNED: Commander's Observations, Evaluations and Recommendations

a. Personnel

(1) Executive Officer, Land Clearing Company

(a) Observation: An officer is needed to run the rear area and none is provided.

(b) Evaluation: A company XO, while not authorized, is needed to handle the rear area and coordinate activities with the battalion to which the company is attached.

(c) Recommendation: That land clearing units be authorized an executive officer.

b. Operations

(1) Front Idlers on D-7E Dozer

(a) Observation: Upon delivery from the factory the front idlers on the D-7E dozer are factory sealed and are supposed to last the lifetime of the dozer.

(b) Evaluation: On occasion the front idlers on D-7E dozers do wear out. When these idlers are replaced, they are replaced with rebuilt idlers which are not factory sealed and have no grease fitting; consequently, they cannot be lubricated and the replaced idler may last only several weeks.

(c) Recommendation: That rebuilt idlers be issued with a grease fitting installed so that the front idlers may be lubricated periodically.

(2) Cutting Edges for the D-7E Dozer

(a) Observation: The D-7E dozer was placed on deadline status due to the lack of center cutting edges.

(b) Evaluation: It was found upon investigation that the center edges for the HD-16 dozer could be adapted for use on the D-7E by cutting 10" off both ends of the cutting edge.

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(c) Recommendation: That modified HD-16 dozer cutting edges be used when D-7E dozer cutting edges are not available.

(3) Welded Culvert Assembly

(a) Observation: An alternate method of culvert assembly had to be sought due to the nonavailability of culvert bolts.

(b) Evaluation: Large amounts of 24 inch culvert were issued without culvert bolts. It was decided to try welding the smaller diameter culvert together. Twenty-four inch culvert may be welded together by using only 3 or 4 culvert bolts, spot welding the sections of culvert so that they are properly aligned and, once spot welded, the bolts may be removed and used to properly align and spot weld the next section. The method has thus far proved satisfactory.

(c) Recommendation: That twenty-four inch or smaller culvert be welded when culvert bolts are not available.

(4) Expedient Water Distributor

(a) Observation: Due to the large amount of fill being placed it was necessary to look for a way of spreading more water on the road under construction.

(b) Evaluation: It was possible to locate an old 5000 gallon tanker which was in bad shape. By taking the wheel off of the old tanker it was possible to place it on a lowboy, fabricate a spreader bar and use it as an additional water distributor.

(c) Recommendation: While the above method renders one lowboy trailer unavailable, it makes possible the expeditious compaction of large amounts of fill.

(5) Signaling Device(Land Clearing)

(a) Observation: The noise from 25-30 dozers operating simultaneously makes it extremely difficult to quickly discover a dozer which is having problems.

(b) Evaluation: The use of smoke grenades proved to be quite effective in signaling when problems developed.

(c) Recommendation: All dozers working in large land clearing operations should carry smoke grenades for quick notification to maintenance personnel.

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(6) Clearing in Valleys, Gullies, Depressions, etc. (Land Clearing)

(a) Observation: Much time was lost by having Rome Plow blades on dozers to clear down sides of ravines and gullies.

(b) Evaluation: Rome plow blades proved inefficient in clearing side slopes and much time was lost using them in these locations while bull blades were used quite effectively.

(c) Recommendation: Rome plow blades should be used to clear flat ground and bull blades should be organized into one cutting section to follow the Rome plows.

(7) Clearing Bamboo (Land Clearing)

(a) Observation: Windrowing bamboo proved inefficient because it did not cut easily.

(b) Evaluation: Since bamboo did not cut easily, it was ripped out parallel to the direction of cut. It would dry out rapidly and could be burned within four hours.

(c) Recommendation: Bamboo should be ripped parallel to the direction of cut and then one plow be used to push cut bamboo into large piles which are easily burned. Pushing should be done perpendicular to the direction the bamboo was cut.

(8) Overheating Dozers (Land Clearing)

(a) Observation: Dozers were overheating in the field due to excessive dust collection by the radiators.

(b) Evaluation: Forced air cleaning with the organic air compressor air hose helped but the pressure was insufficient to do a thorough job. A short length of metal pipe was welded to a universal coupling. The open end was reduced to increase air pressure at that point.

(c) Recommendation: That this expediency be used to clean radiators in extremely dusty areas when normal pressures are inadequate.

(9) Dozer Cab Screens (Land Clearing)

(a) Observation: Screen (wire mesh) on cab sides was

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easily ripped by branches.

(b) Evaluation: By using old drill steel from one of the rock quarries, an effective grill was welded and used in lieu of the wire mesh. This also helped to structurally reinforce the cab.

(c) Recommendation: That ripped wire mesh on cabs be replaced with a steel bar grill network.

(10) D-7E Transmission Filter O-Ring

(a) Observation: D-7E transmission filter elements frequently developed leaks immediately following replacement.

(b) Evaluation: Transmission filter elements came without replacement O-Ring. Old O-Rings were often worn out or when replacing the cap, operators tightened one bolt all the way down before tightening the other two which cut the O-Ring.

(c) Recommendation: That care be taken in replacing these O-Rings and the cap screws tightened evenly.

(11) D-7E Radiator Guards

(a) Observation: The radiator guards on a D-7E are often knocked loose while on large clearing operations.

(b) Evaluation: The pins holding the radiator guard often are knocked out without the operator knowing it. A more secure method is to bolt the guard directly to the shell.

(c) Recommendation: That radiator guards on dozers engaged in continual heavy work be bolted directly to the dozer shell.

c. Training

(1) Troop Information on Venereal Disease and Drug Abuse

(a) Observation: Training films on venereal disease, drug abuse and first aid are difficult to impossible to obtain in RVN.

(b) Evaluation: Visual training aids such as films would greatly assist in informing troops on the adverse effects of venereal disease and drug abuse.

(c) Recommendation: That training films on VD and drug

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EGACBF-CO

30 April 1969

SUBJECT: Operational Report of 539th Engineer Battalion (Construction)
For Period Ending 30 April 1969, RCS CSFOR-65(R1)

abuse should be made readily available to units in Vietnam.

d. Intelligence

None

e. Logistics

(1) Use of Microscope and Centrifuge as an Aid to Diagnosis

(a) Observation: Microscope and centrifuge utilization are essential to accurate bacteriological and hematological diagnosis.

(b) Evaluation: The battalion Medical Section utilized a microscope and centrifuge which were on loan from the 61st Medical Battalion. These items save many manhours that would otherwise be used traveling to a location where such diagnostic procedures would be possible. The total number of laboratory tests performed during the report period with this borrowed equipment was 1,996.

(c) Recommendation: That the T&E of a Construction Engineer Battalion Medical Section be expanded to include a microscope and centrifuge.

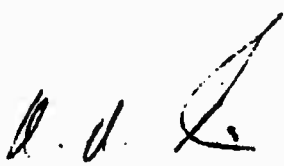
f. Organization: None

g. Other: None

1 Incl

~~1. Organizational Structure~~

Incl wd Hq, DA


A. S. ROSIN
LTC, CE
Commanding

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EGA-CO (30 April 69) 1st Ind

SUBJECT: Operational Report of 589th Engineer Battalion (Const) for Period
Ending 30 April 1969, RCS CSFOR-65 (R1)

DA, Headquarters, 35th Engineer Group (Const), APO 96312, 22 May 1969

TO: Commanding General, 18th Engineer Brigade, APO 96377

1. This headquarters has reviewed the Operational Report-Lessons Learned for the 589th Engineer Battalion (Const) for the quarterly period ending 30 April 1969. The report is an excellent summary of the battalion's activities for the reporting period.
2. This headquarters concurs with the remarks of the Battalion Commander.



WILLIAM L. BARNES

Colonel, GE
Commanding

AVLC-BC (30 April 1969) 2nd Ind

SUBJECT: Operational Report of the 589th Engineer Battalion (Construction)
for the Period Ending 30 April 1969, RCS CSFCR-65 (R1)

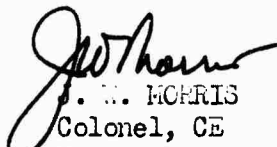
D., Headquarters, 18th Engineer Brigade, APO 96377 6 JUN 1969

TO: Commanding General, U.S. Army Vietnam, ATTN: AVHGC-DCT, APO 96375

1. This headquarters has reviewed the Operational Report - Lessons Learned for the 589th Engineer Battalion (Construction) as indorsed by the 35th Engineer Group (Construction). The report is considered to be an excellent account of the Battalion's activities for the reporting period.

2. This headquarters concurs with the observations and recommendations of the Battalion and Group Commanders, with the following comments added:

Reference: Section II, paragraph a (1). This recommendation has been previously submitted to US RV for inclusion in future LTCR submission.


J. W. MORRIS
Colonel, CE
Commanding

CF: CC, 35th Engr Gp
CC, 589th Engr Bn

AVHGC-DST (30 Apr 69) 3d Ind

SUBJECT: Operational Report of 589th Engineer Battalion (Construction) for
Period Ending 30 April 1969, RCS CSFOR-65 (R1)

HEADQUARTERS, UNITED STATES ARMY, VIETNAM, APO San Francisco 96375

23 JUL 1969

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT,

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 30 April 1969 from Headquarters, 589th Engineer Battalion (Construction).


2. Comments follow:

a. Reference item concerning "Front Idlers on D-7E Dozer," section II, page 23, paragraph b(1); nonconcur. The front idler assemblies, FSN 2530-911-9225, for the D-7E Tractor, are not anticipated to last the life of the tractor. This item has a source code of X2 and may be repaired or replaced at the direct support (DS) level. TM 5-2410-214-35 provides detailed instructions on this subject. The idler assembly is a sealed unit; however, it may be disassembled and lubricated by DS maintenance personnel. Idler assemblies obtained from cannibalization points, rebuilt idlers, or new idlers should be checked for lubrication prior to installation. If a new or rebuilt idler is found that has not been lubricated, an EIR should be submitted to USAMCOM providing the full details. The unit will be informed by separate correspondence. No further action is required by this or higher headquarters.

b. Reference item concerning "Troop Information on Venereal Disease and Drug Abuse," section II, page 26, paragraph c(1); concur. Films are available in Vietnam on both subjects. The USARV Commander's Notes, July 1969, will contain an item regarding the availability of these films and the procedure for obtaining them.

c. Reference item concerning "Use of Microscope and Centrifuge as an Aid to Diagnosis," section II, page 27, paragraph e(1); nonconcur. Medical facilities with a holding capacity require the equipment noted. Facilities engaged in limited sick call care do not require this equipment to perform their mission adequately. More attention should be placed on the information gained in taking a history and doing a physical than on information recorded by a microscope and a centrifuge.

FOR THE COMMANDER:


A.R. GUENTHER
CPT. AGC
ASST. ADJUTANT GENERAL

Cy furn:
589th Engr Bn
18th Engr Bde

GPOP-DT (30 Apr 69) 4th Ind
SUBJECT: Operational Report of HQ, 589th Engineer Battalion
(Construction) for Period Ending 30 April 1969,
RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 19 AUG 69

TO: Assistant Chief of Staff for Force Development,
Department of the Army, Washington, D. C. 20310

This headquarters has evaluated subject report and forwarding indorsements and concurs in the report as indorsed.

FOR THE COMMANDER IN CHIEF:



D. A. TUCKER
CPT. AGC
ASST AG

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